NOTES

ON

THE ANATOMICAL RELATIONS OF UTERINE STRUCTURES.

WITH SURGICAL REMARKS AND THERAPEUTICAL SUGGESTIONS.

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ON STRANGULATED VEINS OF THE UTERUS AND THE IMPORTANCE OF RESTORING THEIR CIRCULATION AND FUNCTION OF DRAINAGE, THEREBY PREVENTING ENGORGEMENT AND MORBID NUTRITION.

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ANATOMY OF THE UTERUS.

NOT only has the anatomy of the uterus been neglected by the best observers, but the relations of its different structures each to the other have, strange as it may appear, been entirely disregarded, and hence ætiology, rational therapeutics, and surgery, which follow in the wake of anatomy and physiology, have failed to suggest the easiest and simplest methods of preventing and of treating easily its various maladies. The publication of William Hunter's plates of the gravid uterus, in 1774, was a bold step in the right direction, but since that time the pace of inquiry has been lagging, and, with the exception of the discovery of the Graafian vesicles, little of importance has been added to the knowledge on the subject which then existed.

It is well known that the greatest diversity of opinion has existed, and still exists, as to the character and composition of the uterine structures, and that this is especially the case in regard to the fibres constituting the walls of the uterus, their nature and their arrangement. J. F. Meckel gives the names of eminent observers, Walter and Blumenbach amongst others, who openly deny the existence of a fibrous structure, the contrary of which is admitted by him and many other good authorities. While most writers speak of

the inner lining of the uterus as a mucous membrane, Madame Boivin has formally declared her opinion to the contrary; she has also given a most complicated account of the distribution and interlacing of the different muscular layers and fasciculi entering into the material of this organ. But as to what end and in what direction these muscular fibres exert their powers, writers generally are still more unsatisfactory, except that most of them say in general terms that these muscles contract in at least two directions, a longitudinal and a transverse. Ruysch admits only a single circular muscle situated at the base of the uterus; while Meckel, on the other hand, pronouncing this description inexact, and denying the existence of the single circular muscle of Ruysch, says that there are at the fundus of the uterus two distinct sets of muscular fibres surrounding the openings of the Fallopian tubes, but as these have to do with fecundation and the movements of the female ova-spermatozoöns, they do not directly concern our present object further than the effect their morbid contraction exerts in producing congestion in the veins and erectile tissues connected with the broad ligaments, Fallopian tubes, and ovaries.

Fortunately, at this stage of doubt, confusion, and uncertain knowledge in regard, at least, to the muscular structure of the vaginal portion of the uterus, Meckel advanced partially, and Sir Astley Cooper came also to the rescue. The former says, "The oblique fibres do not exist in the neck, which, however, is composed, at least frequently, of several superimposed layers of transverse and longitudinal fibres." Now, common sense tells us that these transverse fibres, interlaced with longitudinal filaments and continued around the neck, can form nothing else than a circular muscle. A bracelet made of links and loops, or of interlaced strips or threads, is as much a band for the arm as if it were fashioned out of one or more continuous wires, and the same is true with regard to the fibres entering into the

structure of this muscle. In an old engraving of a uterus, which had been macerated and prepared, the pyriform figure exhibits from a little below its middle third longitudinal bands extending quite over the body to like points on its opposite side, and knit together by oblique and transverse fibres into the form of a truncated conoid. Commencing where the longitudinal fibres are lost to sight is a broad, circular muscle passing around the body and neck to within a line of the os tincæ. These fibres, superimposed on each other, and fastened together by interlacing with the longitudinal filaments, are thickest just where the neck joins the body of the uterus, but become thinner and thinner as they spread from that line upwards and downwards, till reduced above and below to a single layer of fibres.

It is perfectly evident, however, that both these eminent observers, Meckel and Sir Astley Cooper, were ignorant, as others have since been, of the vast importance and value of this anatomical arrangement in a pathological, ætiological, and surgical point of view. The outer layer of longitudinal fibres and the upper spread of circular fibres interlace, as do also the middle longitudinal with the central circular. But the innermost and thickest layer of longitudinal and oblique fibres, entering largely into the composition of the neck, is mainly connected with the middle muscular pouch or spread of fibres by oblique filaments, whereby a certain freedom of movement upwards and downwards is allowed to this internal muscular sac, fashioned somewhat like an india-rubber bottle or Florence flask. When, in a perfectly healthy uterus, the outer and middle layers of longitudinal and oblique fibres, excited through nerves from the hypogastric plexus, by prurient thought or sexual desire, contract, the thick internal layer also contracting, the cervix is driven downwards and forwards into the vagina, to the length of two, two and a half, three, and sometimes as much as four inches. But when the prurient thought ceases, or the orgasm in

sexual intercourse is over, the outer and middle layer of muscular fibres relax, and the thick internal layer relaxing also the neck recedes to its accustomed position. But sometimes, while the cervix is protruded into the vagina, it is as it were lassoed or paraphymosed, and held there by tonic contraction taking place in the circular fibres surrounding the neck and lower third of the body of the uterus, and elongation of the cervix into the vagina, more or less permanent, results. In two cases of hysteria attended by metralgia, where digital examination was permitted, the neck was found protruded into the vagina about two inches in one instance, and about three in the other; these recent dislocations might have become permanent had they not been reduced by wrapping around the base of the elongated cervix a wad of cotton containing three grains of belladonna extract, which so relaxed the fibres of the constrictor cervicis that the following day the neck had receded to its place of rest. And thus the ætiology of the elongated cervix is explained without the necessity of regarding it as congenital. It was no doubt in relaxing transient contraction of the constrictor cervicis muscle that old Fracaster, although ignorant of the mode in which his remedy acted, gave relief to hysteria by directing belladonna and lard to be applied, *cum confricatione*, to the cervix.

The word "telescoped," used to signify the extension of the cervix into the vagina, expresses the fact, but is misleading as to the mode of its occurrence. The sections of a telescope are pulled out or pushed back, whereas the neck of the uterus is thrust out by a muscular *vis a tergo*, and recedes when the fibrous contraction relaxes. Railway cars telescope because the acquired velocity of the rear carriages drives them into or through the front coaches, which, like the engine, have come to a stand-still; but we would not say that the snail telescopes from its spiral abode, or that the tortoise telescopes its head and neck out from or into its shell.

Circling through the walls and around the body of the uterus at its centre is a powerful muscular band, which on account of its importance should not remain anonymous, and may for want of a better name be called *cestus circularis* or *cucloteres* muscle. This powerful muscle, interlacing with the longitudinal and oblique fibres, acts as a point of support; thereby the latter, extending to it from the neck of the uterus in one direction, and from its fundus in the other, are enabled to act with an advantage and force in parturition which they could not otherwise have. The greatest protrusion and elongation of the neck into the vagina in a perfectly healthy unimpregnated uterus, occur from prurient excitation, causing contraction of the longitudinal and oblique fibres and consequent drawing together of the transverse, or those surrounding the cervix. The comparatively feeble and immature muscular movements of the unimpregnated uterus are contractile, protrusive, retractive, and to a limited extent vermicular. During the orgasm the uterus and appendages are in a state of organic exuberance, the muscular fibres tense, the nerves excited, the capillary circulation is active, the erectile tissues everywhere rampant; the striated lobes of the cerebellum are in a state of healthy erethism, their vessels physiologically congested, and the whole sympathetic nervous system responds. The contraction of the longitudinal and oblique fibres not only forces the neck of the uterus downwards and forwards, but by compression reduces the capacity of the uterine cavity, which, resuming its size when the orgasm is over, pumps up, as into an exhausted receiver, prostatic, seminal, or other fluids contained in the vagina. The uterus, on expanding and resuming its position, having through connection of its anterior fibres with the upper wall of the vagina this *point d'appui* only, is drawn forward on its axis, thus throwing its mouth into the posterior cul-de-sac of the vagina, and thereby aiding the suction which the cavity of the uterus, while expanding, is in the act of ac-

complishing, in the way that a compressed india-rubber bottle, allowed to resume its shape, pumps up any fluid at its mouth.

THE CONSTRICTOR ORIS ET CERVICIS UTERI MUSCLE.

If the circular muscle at the entrance of the gravid uterus had no other office than that of closing the mouth of the womb during gestation, the name sphincter, applied to it by recent writers, would not be inappropriate; but in emotional life proportionate to the degree of civilization, it acts by constricting the veins of the cervix, and becomes the origin and source of various uterine diseases, and therefore, so far as the cervix alone is concerned, it might be styled the *fons et origo morborum*. But as this muscle is subject to anatomical transposition, to translation of its physiological functions, and has a double office to perform, one belonging to the active state of gestation, and the other to the more dormant condition of the unimpregnated uterus, a more comprehensive and discriminative name, such as *constrictor oris et cervicis uteri*, would seem to be required. This name embraces all that sphincter could signify, and at the same time expresses how its concentric action may become a factor of atresia or stenosis, with their trains of multiform and most serious maladies. All other muscles of the body having received appropriate names, it seems superlatively strange that this constrictor, or sphincter muscle, having clearly defined fibres and endowed with definite and most important functions, should have remained until now almost anonymous, and certainly without a distinctive or discriminative title.

The constrictor cervicis muscle, surrounding the neck and lower third of the body of the uterus, is proportionately never more broad than in the unimpregnated uterus, and never more narrow than at the full period of gestation, when its fibres are rolled together in the form of a ring, which, like a cord compressing the mouth of a bag, drags together the ends and loops of

the longitudinal fibres and closes the mouth of the womb. As pregnancy advances, the uterine canal becomes little by little shorter and shorter, its upper portion widening more and more to the capacity of the lower half of the uterine cavity, of which it becomes a part, and, *pari passu*, with this process of transformation the fibrous walls of said canal enter into the composition of the uterus, whereby the transverse fibres connected with its two outer layers and constituting the constrictor cervicis muscle are, if it may be so expressed, shifted, slid off, or left in their relatively new situation to become during gestation the sphincter, or more discriminatively, the constrictor oris uteri. When parturition occurs the longitudinal and oblique fibres, excited to powerful contraction, draw on this ring or circular muscle, and pull it open.

In sexual intercourse the uterus protrudes its neck, and seems as though it would jump through this lasso or constrictor cervicis muscle into the vagina; whereas in the evolution taking place during gestation the reverse occurs, and the neck is drawn out, even to its very mouth, from the muscular lasso.

The constrictor cervicis muscle in the comparatively dormant state of the unimpregnated uterus bears the same relation to the constrictor vaginæ that the upper or internal sphincter has to the sphincter ani. There is another point of resemblance; each external sphincter is under control of the will, while the internal constrictors or sphincters are beyond its reach, except so far as volition is, by reflex excito-motory acts, communicated from the voluntary to the involuntary muscles.

In the formative state the Fallopian tubes, uterus, and vagina constitute one continuous cylinder or elongated pouch, afterwards divided just where the circular fibres are found into three separate compartments. In the fundus of the uterus are the circular fibres of Meckel, at its mouth the constrictor oris et cervicis uteri, and lastly the constrictor vaginæ muscles.

As there is accord between the external and internal sphincters of the rectum, so there is reflex sympathetic action between the three circular muscles dominating the prime reproductive cavities; that is to say, if there is transient or tonic contraction of the constrictor oris et cervicis uteri muscle, there is also corresponding tension in the fibres surrounding the openings of the Fallopian tubes, producing congestion in the vascular and erectile tissues existing to a greater or less extent in these latter. And where contraction of the constrictor cervicis muscle is overcome by protracted dilatation, corresponding relief is given to the contraction of the circular fibres at the fundus of the uterus surrounding the mouths of the Fallopian tubes. The constrictor vaginæ and the sphincter ani are voluntary muscles, but the interior circular fibres of Meckel are, like the constrictor cervicis and internal sphincter bands between the rectum and colon, beyond the reach of volition and subject to organic instincts alone, except when these are modified by reflexes from the voluntary muscles.

Clonic or tonic contraction of the constrictor cervicis uteri fibres becomes, as we shall presently see, in the unimpregnated uterus, the active cause of various uterine affections. So much for the muscular arrangements and their capabilities; but it is essential to a proper understanding of the subject that we also call attention, briefly, to the vascular apparatus of the uterus and its appendages.

THE UTERINE CIRCULATION.

The reader will recollect that there is no part of the human body where the origin, course, anastomosis, and inosculation of arteries are more irregular than in the vessels occupying the cavity of the small pelvis, and, notwithstanding these variations, the compensating powers of nature are such that their ultimate distribution is as a rule accomplished with exactitude. He will also remember that the uterine artery, having its origin

usually from the ischiatic, but sometimes from the pudic, takes its course with its accompanying vein between the folds of the broad ligament to the uterus, into the lateral walls of which its branches are distributed. *Now the point I wish to make, and desire the reader to note is, that some of these branches with accompanying veins for the return blood pass through and underneath the bands of the constrictor cervicis uteri muscle, which, operated on by various influences, contracts transiently, rigidly, and often permanently, so as to impede to a greater or less extent, and sometimes obstruct entirely, the return blood by the veins.* And not only are the veins compressed, but also lymphatics and branches of the sympathetic from the hypogastric plexus, and we all know how paresis of the vaso-motor nerves robs the capillary vessels of their vital powers of contraction, thereby rendering them prone to dilatation and congestion. In this way most of the ills that uterine flesh is heir to have their origin. Any other organ of the body having the venous flow of blood from it arrested, while the arterial afflux still goes on, must and does always suffer deplorable consequences, modified by the nature of the structures deluged by obstruction to the return circulation. The relations of the constrictor cervicis uteri muscle and of the primary branches of the uterine arteries and their return veins, by which latter the drainage is effected, are altogether unique.

THE CAUSE OF UTERINE ENGORGEMENT AND DISPLACEMENT.

A circular muscle arranged around the lower third and the neck of the uterus like an elastic garter, particularly liable to irritation and subsequent contraction, having direct power to impede the venous flow, and yet too weak to control the arterial circulation, becomes, by arresting the return blood and backing it on the womb, the factor of engorgements in the neck and body of the uterus, and as a consequence is the cause of procidentia, retroversion, retroflexion, and

anteversion, according to the part of the womb which is weighted by the haemostatic engorgement. If increased bulk and consequently weight is brought about in the neck, the uterus is liable to be dragged down, like a fisher's cork with lead attached, into the cavity of the pelvis; but if the summit of the posterior, anterior, or lateral walls be the seat of the congestion or infarction and increased bulk, then the tendency, hurried by exciting causes, is to topple backwards, forwards, or to either side, according as the back, anterior, or lateral walls contain the greater weight of engorged matter. In this way, just as the fisher's cork falls in one direction or the other, as weight is added to a particular side, retroversion, anteversion, or lateral declension is brought about. The normal position of the womb in health is that of anteversion.

There is a form of lateral displacement not of necessity connected with the causes of dislocation already assigned, which Meckel describes in the following words:[1] "When the fibres of the broad and round ligaments of one side act more forcibly than those of the opposite side, the uterus is carried transiently or permanently into one half of the pelvis, an arrangement which we have often observed, although it depends on no mechanical cause, and although the parts which serve to retain the uterus were unaltered in their texture." Again, on page 555, he mentions "the situation of the uterus out of the median line, in which case it generally rests against one of the sides of the pelvis." There is a form of strumous engorgement or infarction of the walls of the uterus rendering them and the neck extremely thick, which does not depend on the anatomical arrangement, or rather derangement, of the muscular fibres and veins about the neck of the uterus. These exceptions are here referred to for the purpose of clearing away the ground, isolating and bringing into more distinct view the subject under consideration.

[1] Doane's edition, 1838, vol. ii. p. 500.

FIBROID AND OVARIAN TUMORS; CARCINOMA.

Arrest of the return blood long continued causes also fibro plastic thickening, and often permanent augmentation of bulk. And when the ætiology of fibroid tumors comes to be more carefully examined and better understood it will probably be found that their mode of production is largely due to an arrest of healthy nutrition caused by obstruction from muscular or other compression, preventing the free return of blood through the veins. Fibrine and blood globules blocked up in the capillary vessels sometimes assume a parasitical growth, and become the germs of subsequent fibroid development. The coagulable fluids found in fibroid cysts would appear to be nothing more nor less than the albuminoid reserve of blood forced into them by arterial afflux on the one hand, and obstruction to the reflow of blood through the veins on the other. In ovarian disease, on the contrary, the vessels growing with the development of the tumor are unobstructed, and accordingly the cysts are filled with non coagulable fluids of various degrees of consistency. This muscular compression, and consequent arrest of nutrition, explains more satisfactorily than any other theory the primary origin of carcinoma. The uterus and mammæ are peculiarly the tropics of cancer, produced in the former by the obstruction of veins underneath the constrictor cervicis uteri muscle, and in the latter by compression of the corsets, after the mode in which pressure of the pipe-stem, by arresting circulation and nutrition, gives rise to cancer of the lip.

HÆMORRHAGES.

Obstruction to the return blood also produces not only congestion of the inner lining membrane of the womb, but often a varicose condition of its veins, and not unfrequently this congestion and morbid repletion is relieved by profuse diapedesis, hæmorrhage from the

vessels of the endermion, often showing itself in the form of profuse menorrhagia. There is also a spongy thickening of the walls of the uterus, with more or less congestion of its inner lining membrane, from and through which is secreted and exuded a profuse muco-serous or sero-purulent discharge. This condition, generally called uterine catarrh, is also largely due to retardation of or obstruction to the return blood, caused by strangulation of the uterine veins by contraction, more or less transient or permanent, of the upper, middle, or lower fibres of the constrictor oris et cervicis uteri muscle. Here again relief has been unknowingly derived from the preparative operation of dilating the cervical canal, thereby releasing the compressed veins and setting free the return circulation, and not, as is generally supposed, from the topical treatment afterwards applied. Sometimes the arrest of blood only gives rise to vascular turgescence of the endermion and the vessels of the longitudinal fibrous layers with more or less œdema of the cellular tissue in and between said layers. This morbid condition is one of the causes of sterility, and if found in the dead body is better than any other for purposes of dissection. A weight of eight or twelve drachms suspended on an india-rubber cord just capable of sustaining it will remain in a uniform position, but if an increased load be added, the cord yields and the body is let down: in like manner, the healthy uterus, sustained by the vaginal column, round ligaments, and other yielding supports, holds its place until congestion, engorgement, or infarction, adding to its weight, causes it to decline.

In so-called internal uterine hæmorrhage after parturition, what happens to produce it? While the longitudinal fibres are utterly relaxed, the constrictor oris uteri muscle has contracted, thereby not only closing the mouth of the womb, but obstructing the return blood to the general circulation by the veins. In two cases of post parturient hæmorrhage, while my

hand was introduced above the line of the umbilicus, for the purpose of pulling out blood-clots, the contractile pressure of the constrictor oris could be distinctly felt grasping my fore-arm; and it was manifest that, while this muscle was sufficiently rigid to form a *point d'appui* for the longitudinal fibres to act on, the latter were too weak and relaxed to avail of the advantage. After removal of blood-clots, titillation of the inner walls with the fingers of the right hand, grasping the uterus through the walls of the abdomen with the left, and the use of ergot, both of these cases progressed favorably.

The wife of a friend of mine, living in New York, died from internal hæmorrhage, there being no outward flow of blood whatever. How could this have happened unless the longitudinal fibres were powerless to pull open the mouth of the womb, already closed by contraction of the constrictor oris muscle? After death the uterus was found filled with coagulated blood and serum. In rare instances the contraction of the constrictor cervicis is so great as not only to obstruct the veneins, but materially to arrest the arterial circulation also. Where this occurs the uterus is in the beginning voluminous; but when the arterial supply has been long cut off, it is atrophied, its tissues are wilted, and the inner lining membrane is dry, and as rough as pumice-stone; and in rasping out, as is sometimes done, this indurated surface, as well as in other intra-uterine operations, the relief comes not so much, as is generally supposed, from what is done within the cavity of the womb, but rather from the preliminary operation of dilating its cervix, and thereby unconsciously releasing the veins and arteries, arrest in the circulation of which had given origin to the trouble.

A lady had been to most of the capitals in Europe to consult, without success, gynæcologists for the relief of profuse menorrhagia; finally, she went to another specialist, who, to arrest the bleeding, introduced for the first time a sponge tent into the cer-

vical canal. Several months having elapsed, this gynæcologist inquiringly wrote to a friend of his in Paris, who came to me to ask if I could explain why it was that the introduction of a sponge tent had not only arrested the hæmorrhage at the time, but had also effected a permanent cure, as shown by the fact that the catamenia had been perfectly regular for four consecutive months, of customary quantity, and unattended by the least loss of hæmorrhagic blood. In reply to the question, I said, "Obviously because the sponge tent had broken up an old stricture of the uterine canal, caused by tonic contraction of the constrictor cervicis uteri muscle, and, as a consequence, the veins returning blood from the uterus, being released from a ligature, were now performing freely their proper office of drainage." But whether the explanation was accepted, or even understood, I never learned.

TREATMENT.

Do not suppose, however, from the relief and final recovery thus obtained, that I approve of the general and indiscriminate use of the sponge and sea-tangle tents, having witnessed in several instances, both abroad and at home, deplorable consequences resulting from their employment by eminent practitioners; the expansion of either is so free, resistless, and difficult to limit that the transverse or circular fibres, instead of being gently stretched, are sometimes torn, the rude treatment often giving rise to phlebitis, followed by metritis, metro-peritonitis, pyæmia, or parametric cellulitis. Moreover, the expansion of these tents, operated by a perfectly irresistible hydraulic power, is so rapid and great that, instead of having, as before the tent was introduced, pressure of the muscle from without on the return veins, the powerful expansion of these tents causes compression and consequent interruption to their circulation and office of drainage from within. The movement of blood in these veins can go on properly only when they are nicely poised within

the circular and longitudinal meshes of the constrictor cervicis fibres, and while these latter are in a state of healthy tension, or, it might rather be said, repose.

Your patient indulgence is asked in order that the easy mode of meeting all the difficulties and morbid conditions directly dependent on and growing out of contraction of the constrictor cervicis muscle, and consequent hæmostasis resulting therefrom, may be recounted. After carefully examining, more than forty years ago, the uterus and its appendages, and especially the topography and anatomical relations of their different structures, the practice now to be illustrated by cases briefly drawn was adopted and continuously carried out, whenever opportunities offered, with good success, and without, so far as is known, injury to a single female. It was begun on the theory that arrest of the venous circulation was the direct primary and often the continued cause of numerous morbid conditions to which the uterus and its appendages are subject. The treatment consists in the simple expedient of dilating the cervical canal, so as to overcome contraction of the constrictor cervicis uteri muscle which had narrowed or closed it, *and to keep the dilator applied sufficiently long to fatigue the muscular fibres, thereby removing pressure from the veins of the neck and lower third of the body, setting free the circulation and renewing, or rather restoring, their office of drainage.*

I would not for an instant have it supposed that I regard the introduction of male urethral bougies into the uterine cavity as a novelty; on the contrary, it has, no doubt, been done thousands of times, the use of these instruments always at hand as dilators being very naturally suggested. But the bougie, when used, has as a rule been introduced and withdrawn just as in the treatment of strictures of the urethra, and without regard to the anatomical relations of the uterine veins and constrictor uteri fibres, each to the other, and consequently only in a few instances, or by acci-

dent, has the bougie been permitted to remain in the uterine canal for any length of time, so as to fatigue the muscle, and thereby give lasting effect to the dilatation. And when bougies have been tried no intimation was ever thrown out that they were introduced for the purpose of releasing the cervical veins and restoring to them their proper offices. I at first used as dilators sounds made of a pliant metallic compound, and easily bent in any direction; but some time afterwards I was fortunate in procuring from the late Mr. Andrews, chemist, three sets of male urethral bougies he had brought with him from England. It was at once apparent that they were the very sort of bougies required; for, while readily bent to any curve, they were at the same time sufficiently resistant to retain their position. The largest of these — from No. 5 to No. 12, two of them being of unusual size — were used in all cases. I am referring now to a period when the treatment of uterine affections was largely in the hands of empirics, and when the women of the country were going in shoals to consult at Flatbush, near Brooklyn, New York, a medicine-man who at that time held over the hysterical provinces of this country an autocratic sway not less absolute than was the rule of Dr. Francia in Paraguay. It was to rescue this department from the hands of quacks that the late Dr. Francis and others in New York procured from the legislature of that State a bill to establish a hospital in the city of New York for the treatment of the diseases of women, placing Dr. J. Marion Sims at its head.

During these days Sir James Y. Simpson published his operation of division of the cervix from within, as a means of relieving stricture of the uterine canal, and thereby preventing sterility. Having already for these objects practiced dilatation, I was then at a loss to see, and have since been unable to perceive, the necessity of substituting for simple and effective dilatation the hazardous and dangerous operation of dividing the neck, whether from within or from without, laterally,

bilaterally, or otherwise. Dissecting the uterine arteries years ago, I noticed that, while the branches are sent to the uterus with tolerable uniformity, their distribution after entering the walls is most irregular, with one exception, which is that the primary branches with great regularity circle around or about the cervix where it joins the body of the uterus, and just where they would be divided in this operation of Sir James and his imitators. As the uterus in health has a very obscure sensibility, they seem to forget that it is richly endowed with organic and vaso-motor nerves of the easily impressible and extremely susceptible sympathetic system, a due regard to which would also prevent the too prodigal use of potassa fusa, Churchill's mixture, and other irritating, and at times highly exasperating, applications. In gynæcology, as in the practice of all the other departments of medicine and surgery, the golden rule should be never to do anything which might, by the remotest possibility, do the patient harm.

The late Sir James and his surgical executors or imitators, without regard to the veins, arteries, lymphatics, muscular structure, and nervous organization of the cervix uteri, cut through it as if they were dealing with clay, dough, or some other perfectly homogeneous and inanimate mass. Division of the neck, to be effective, must be carried up as high as its union with the body of the womb. An operation of this sort, considering the proximity of the uterine arteries, must always be attended with danger to the life of the patient, especially if there be not a hospital assistant on hand to arrest dangerous hæmorrhage, should it occur. Sham or make-believe operations of this sort, hardly carried deeper than the fissure in a frost-bitten lip, can never be dangerous or advantageous to any one, unless it be to fill the pockets of a mountebank. Division of the neck is an operation which will not stand the test of time, and when the anatomy and physiology of the uterus come to be better under-

stood it will be altogether abandoned in the cases for which it was initiated.

I have seen one case where it was necessary to dilate the canal of the cervix at its junction with the body after the former had been deeply incised. I have seen also the case of a lady who, for five years bedridden with strumous infarction of the womb, voluminous in size, finally had the thickened walls of the cervix incised by the lateral operation, deeply through the entire length of its canal quite up to the body of the uterus, but with what object it was difficult to understand; at the end of five months the lips of the wound, which at their union must have been from infarction an inch and a half broad, were gaping apart, had made no attempt at cicatrization, and it was only after the infarction was relieved, as it might have been at first and without the operation, by constitutional treatment, that the wound healed up and the patient recovered perfect health. The only prescription given her was the following: —

℞ Iodin. . . . . gr. x.
Ferri iodidi . . . . . ℥ iij.
Potassii iodidi . . . . . ℥ ss.
Ext. cicutæ (conii) [1] . . . . . ℥ iij. M.
Ft. pil. lxxx. S. One after each meal.

These pills should be made up quickly, adding half a drachm of gum acacia to keep the iodide of iron from

[1] In Dr. Harley's book on the therapeutic and toxical effects of drugs, in which he pronounces the doses of conium usually prescribed by physicians absolutely inert, he suggests that some may have adopted his views, which will not serve to render this agent any more classic than it was before his denunciation of it as a therapeutic agent. If he has made any converts, I would say a word to them. Dr. Harley, in taking six drachms of the succus conii, and then publishing his symptoms, with comments thereon, did in my judgment a very silly thing, since it proves nothing. He only shows us that he is one of that faction amongst therapeutists who believe, as did the late M. Trousseau, that remedies acting vitally exert no effects unless carried to the extent of producing some noticeable signs of their physiological action, while an opposite school believe in the therapeutical effects of comparatively small doses. These disputants will both meet by their extreme opinions, each adopting partially the views of the others, when they come to understand that there is one system of medication for dis-

deliquescing, and when made they should be coated with tolu.

Contraction of the constrictor cervicis muscle had nothing whatever to do with the above case, in either its origin or progress. There was simple closure of the cervical canal caused by pressure from without, produced by the thickened condition of the walls of the cervix from infarcted matter; and as soon as this infarction cleared up the womb resumed its healthy size, and the patient recovered her former health and activity.

This operation of the late Sir James Y. Simpson, and the modifications of it, is one that ought very rarely or never to be performed.

I recall the case of Mrs. A., the vaginal portion of whose womb was about two and a half inches long; and thinking that abbreviation, if not division, of it might possibly do good, I sent her, about fifteen years ago, to the New York Woman's Hospital; but after remaining there for a month, she returned to Baltimore without having been operated on, and I afterwards gave the surgeons in charge credit for their conservatism and masterly inactivity in this case. Had the opinions of to-day prevailed at that time, the neck would have been taken off with the knife or a silver ligature, and in London or Edinburgh it would have been destroyed with potassa fusa, or the caustic containing thirty per cent. of lime.

A young, charming, and very accomplished lady, in the enjoyment of perfect health, left Baltimore for Edinburgh, where the neck of her uterus was divided. One week after the operation she died from the effects of hæmorrhage.

There has been much discussion as to whether this operation had better be performed after the fashion of

cased organs deriving their nervous supply from the sympathetic and vaso-motor nerves exclusively, and another for morbid structures which, having like connections with the ganglionic system, are also to a greater or less extent under the domination of nerves derived directly from the brain and spinal cord.

Simpson, its originator, by cutting from within outwards, from without inwards, or bilaterally both ways, with scissors; but my opinion is that it ought never to be performed, except, perhaps, in some very rare and extremely exceptional cases, such as I have yet seen in but one instance.

PESSARIES.

In those days, too, when the so-called science of gynæcology had not been conceived, certainly not born, and still less named after certain Greek words, the late Professor Hodge invented his pessary, now so largely employed in all civilized countries for the relief of retroverted and retroflexed uteri, and one of the greatest boons ever conferred on the suffering gentler sex. I was one of the first, on the recommendation of Dr. Hodge, to use his pessary, which kept the uterus in its place, and was therefore palliative; but in every instance the dilating bougies were also used to overcome the muscular contraction of the constrictor cervicis, thereby releasing the venous circulation, obstruction to which, and consequent increased weight from engorgement, had originated and kept up the uterine displacement.

DILATATION BY BOUGIES; LEUCORRHŒA.

The bougie was always carried up to the *bas fond* of the uterine cavity, or, in other words, as far as it would go; and then, to prevent its displacement, the lower third of the bougie was placed against the right thigh and fastened to it by a few turns of a cotton-muslin roller. To fatigue the fibres of the constrictor cervicis muscle, the dilator was allowed to remain in the uterus from twelve to sixteen, and rarely thirty-six, forty-eight, or seventy-two, hours. For that most common of all uterine troubles, for which nitrate of silver is so generally applied, with only tentative results, — I refer, of course, to hypertrophic enlargement of more or less of the vaginal portion of the uterus,

with thickening, tumidity, redness, and often superficial ulceration of the lips surrounding the os tincæ, together with engorgement and enlargement of the muciparous follicles, just within the neck, and pouring out, as they always do in this condition, profuse secretion, or exudation, popularly called "whites," or fluor albus, — for this condition I have never applied nitrate of silver, but have, times without number, carried a large bougie up to the fundus of the uterus, allowing it to remain in the cervical canal twelve, sixteen, or twenty-four hours, and generally with more satisfactory results than from any other single expedient, topical or general. Here again the relief could be attributed only to overcoming contraction in the fibres of the constrictor cervicis muscle, releasing the venous circulation, and thereby preventing retardation of blood and consequent engorgement. The original and continued cause having been removed by the bougie, I have generally relieved existing engorgement by giving one or two Blancard's pills of iodide of iron after each meal; and when syrup of the iodide of iron can be had without free iodine in it the following may be substituted for the pills: —

℞ Syr. ferri iodidi . . . . . ℥iiss.
Aquæ fol. aurantii . . . . . ℥iiiss. M.
S. A teaspoonful after each meal, in water.

The muciparous follicles, existing just within the os tincæ, and occupying the walls of the cervical canal for about an inch, are the sole and only sources of fluor albus. These follicles are often found enlarged and tumid, without other engorgement or trouble of any sort, in the tissues surrounding them. How could the profused flow from these bodies, amounting often to half a pint a day, occur unless from tying up of the cervical veins, the fluid being derived by exosmose of serum from the blood? Signal relief is often derived from introducing a bougie and allowing it to remain a sufficient length of time in the cervical canal, thereby releasing the veins, and allowing their return circulation to pass

through them unimpeded. The obstruction to venous flow being thus relieved, existing engorgement in the muciparous follicles may be resolved by giving the following: —

℞ Hypophosphit. sodæ,
Hypophosphit. calcis . . . . . āā ℥ iij.
Hypophosphoric acid . . . . q. s. ad sat.
Aquæ destillatæ . . . . . ℥ vi. M.
S. Give a teaspoonful after each meal.

Pure phosphate of lime in the magma form is much better to prescribe in doses of ten grains, thrice daily, provided we can be sure of having it furnished in proper assimilable form by the apothecary.

AMENORRHŒA; DYSMENORRHŒA; STERILITY.

I have repeatedly adopted this same expedient of introducing the bougie for the relief of amenorrhœa, dysmenorrhœa, and sterility, usually in the two latter affections, a day or two before the expected return of the catamenia. A young lady from Kansas, nineteen years old, suffering from amenorrhœa, having been at school here for over a year, had taken all the usual emmenagogue remedies resorted to in such cases, had never menstruated in the regular way, but had suffered vicariously from epistaxis, hæmatemesis, and, a short time before I saw her, from hæmaturia. She was brought in from the country by the matron of the school. I introduced a large bougie quite up to the fundus of the uterus, fastening the lower third of it, as usual, to the right thigh, with directions that on the following afternoon it should be removed. Ten days having elapsed, I received a note from the duenna, saying that her young lady was quite relieved.

In 1873, I was consulted by a lady as to what should be done for her daughter, a young girl seventeen years old, suffering from dysmenorrhœa: in fact, during three years she had never had anything beyond a mere show, which had appeared on some three or four occasions only, and always attended with severe hysteralgia. I

introduced, in the way already described, a No. 10 urethral bougie, instructing the mother to remove it the next day. Three months after, I received a letter of thanks from the mother, stating that, as far as she could judge, her daughter was perfectly well, having had for two months perfectly regular visitations of the "enemy."

In the case of a lady four years married without conceiving, the same practice was resorted to, with happy results, the only drawback being that four weeks after the first operation she insisted on its being repeated, and the result was that at the first period of gestation she was delivered of an acephalous monster, attributable, no doubt, to the second needless introduction of the dilator. She has since, however, proved a fruitful vine, having had in twelve years no less than eight children at the full period of gestation.

It happens often after parturition that the constrictor oris et cervicis uteri muscle contracts unduly, thereby narrowing the canal of the cervix and retarding the return of blood through the uterine veins. A lady with one child, a daughter sixteen years old, anxious to gratify still further the instinct of maternity, consulted me to know how her reproductive organs might be renovated. Having full faith in the invariableness of the cause of this and numerous other troubles of the womb, I advised that a large-sized urethral bougie be introduced quite up to the fundus of the uterus, which was done, — the dilator in this instance being allowed to remain undisturbed for over two days before removal. Shortly afterwards the lady became pregnant, and has since had four children at full term.

VAGINISMUS.

There is another condition for the cure of which the knife ought never to be resorted to, and that is for vaginismus, which is in all cases perfectly susceptible of relief without the use of a scalpel. A lovely and perfectly healthy young woman, residing in this

city, only a door from the one already referred to as having died at Edinburgh from hæmorrhage following division of the neck of the uterus, went to Paris, where she was operated on, a knife being used to divide the sphincter vaginæ muscle, and the result was death from pyæmia shortly after the operation.

Why all this cutting and slashing in cases which can be relieved by simple methods, unattended with danger of any sort? Were these women properly advised, before being operated on, of the danger they were going to encounter? With provident knowledge of the risks, they might have preferred to select a child from the thousands in foundling hospitals, rather than knowingly incur the hazard to their lives of trying to become fruitful by operations, doubtful at best as to their efficacy. If we are cognizant of these two unnecessarily fatal cases coming from a single block on the same street, in a remote town, what must be the unknown and untold necrological list of dumb thousands from other more extended and populous regions? Why do not gynæcologists confine their operations to the special province which they have voluntarily chosen? Dr. Francia governed Paraguay autocratically all his life without going beyond its borders. Several gynæcologists have lately cut through the walls of the abdomen and into the gall-bladder for the purpose of removing therefrom cholesteric calculi, which might readily have been dissolved, and operations so hopelessly perilous avoided. Where a woman has closed her reproductive account, and declared an act of non-intercourse, Dr. J. Marion Sims's operation of reviving the surfaces of the vagina and taking a reef in them makes a very fair cup-and-ball arrangement for the relief of procidentia; but it is only applicable in a limited number of cases, and whether this operation be performed or not, the cervical canal ought in all cases to be dilated to the size of its former healthy gauge, the veins released, and drainage restored, whereby any chronic engorgement and increased weight

which gave origin and continuance to the procidentia may be relieved.

AMPUTATION OF THE CERVIX.

As to excision or amputation of the cervix, I have never known a single instance where advantage to the patient resulted therefrom. One of the instruments used for this operation resembles a miniature or toy guillotine, worked by hand instead of by machinery. In long-standing cases of obstinate procidentia, where the uterus and its appendages were, and had been for a long time, hanging down to the middle third of the thighs, I have seen the entire mass removed, with signal relief to the patient.

In transient contraction of the constrictor cervicis uteri muscle, occurring usually at the catamenial period, attended with hypogastric pains, and sometimes by a mere show, often resembling coffee-grounds, the flow has been brought on by directing the attendant to apply on the end of her forefinger, carried deep down into the vagina, a wad of raw cotton, soaked in a solution of belladonna. In what manner could this agent, thus applied, afford relief, except by relaxing the fibres of the constrictor cervicis uteri muscle, which may have been put in a state of tension by irritating matters in the cervical canal? It is, no doubt, by washing out offending secretions and removing the cause of muscular contraction that warm-water injections often, under like circumstances, are useful.

If all physicians engaged in general medical and surgical practice will only treat in their incipiency, by the simple method herein detailed, all the morbid conditions to which this paper refers, they will, without risk of any sort to their patients, ward off and relieve an incredible amount of human suffering. They need not fear that there will not still be, from neglect and inattention of their patients, a plenty of cases developing, maturing, and ripening for the knife, manipulations, and tractations of the gynæcologist. A patient rarely

applies to the gynæcologist until her malady, whatever it may chance to be, is fully developed; it is generally perfect, and a specimen of its kind. Prevention and early recovery can therefore lay their claims on the general practitioner only, who is called to see **these cases in their very incipiency.**

Dilatation of the cervical canal will, in fact, be found a simple and effective treatment for all young females who, for weeks together, realize that they have backs. "My back hurts me so when I walk or stand up, and often when I sit still; and then the pain in my limbs! The least fatigue gives me headache, and obliges me to lie down." In the early days of such complainings there is, in ninety-nine out of every hundred cases, contraction of the constrictor cervicis muscle, which, if not relieved, will result in engorgement of the neck, in tumidity of the muciparous follicles, giving rise to whites, leucorrhœa, or some one of the many ills already referred to. The bougie can, with the aid of a speculum, be easily introduced: but without such aid, knack or tact, readily acquired by practice, is needed. If the bougie be used in time, the maladies herein enumerated will be prevented, and where they have already occurred dilatation in all of them is still the **most direct route to recovery.**

ADVANCES IN UTERINE SURGERY.

The great contributions to the surgery of the uterus and its appendages are McDowell's radical method of treating ovarian tumors by excision, Hodge's pessary, Dr. J. Marion Sims's operation for recto-vesico-vaginal fistula, Dr. Atlee's paper on encysted fibroid tumors, and Dr. G. Thomas's ingenious provision for early descent of the umbilical cord, wherein he converts the anterior walls of the vagina and uterus into an inclined plane by placing the patient on her elbows and knees.

MCDOWELL AND OVARIOTOMY.

When the circumstances under which McDowell devised and performed his first operation for ovari-

otomy are considered, it makes it altogether the most remarkable contribution ever made to general surgery, living as he did at that time in a remote Western village, only accessible by bridle paths or very imperfect roads, and where opportunities for the study of morbid anatomy must, to say the least, have been very few. He not only recognized the true nature of the morbid growth, but instituted the radical operation for its relief. The only explanation of this marvel is that he had time for reflection, opportunities for free thought, and was removed from the dogmatic teachings of the schools.

Almost as much may be said of the operation for vesico and recto vaginal fistula, originated by Dr. Sims, who is also the inventor of most of the instruments, of which there are quite too many, now used by the gynæcologists. Dr. Thomas's provision against primary descent of the cord belongs to the same order of discovery. All of these remarkable operations were bestowals on an extended and comprehensive science. But after this province revolted and made a predatory raid on the empire of general surgery, it gained no victories, and since its organization into a special corps, with its exclusive society and separate and distinct journals or organs, few laurels have been won, no triumphs proclaimed, and little except detail has been added to the knowledge of uterine affections.

The secession carried with it all the brilliant discoveries which had previously been made in this department of surgery, and in fact there would have been nothing to gain by a raid had there not been much to carry off. The gynæcologists would have been able to make just as good a showing had they continued under the banners of general medicine and surgery.

It is curious, but nevertheless true, that, abroad at least, those who repeat these operations, whether for ovariotomy, vesico-vaginal fistula, extraction of fibroids, or returning the cord on nature's inclined plane, seem to think that they all deserve equal credit, and are en-

titled to stand on the same platform with McDowell, Hodge, Sims, Atlee, and Thomas.

As well might a telegraph operator regard himself as equal to Morse, an exhibitor of chloroform the peer of Morton, the taker of a photograph the image of Daguerre, or he who adopts the new application of the law of gravitation consider himself the equal of Dr. Thomas. Perhaps they think that as none of these operations are European in their origin, but all imported from America, each surgeon has a right to win and wear parasitically the honors deducible from them.

It is the simplicity of these operations which constitutes their great merit. Ovariotomy in its performance according to the rules established requires only moderate skill and attention to details. There are no important blood-vessels or nerves to be avoided, and therefore acquaintance with anatomy is not called into play. As a proof that no great surgical proficiency, knowledge, skill, or experience is required in ovariotomy, it is only necessary to remark that Dr. Keith, of Edinburgh, who as a specialty took up this operation, having never performed any other, was not educated as a surgeon, nor had he any experience in that department, and yet his tables show better success than those of any other ovariotomist. I had this statement from the lips of Keith himself.

There lived in a district near Baltimore a famous character, rejoicing in the name of Jack Beach, widely known amongst country people as the right man to spay and castrate pigs, caponize chickens, make geldings, and emasculate other animals. His instruments consisted of a clasp knife with a blade about four inches long, a rough curved needle, and horse-hair for sutures and for making draw-loops for caponizing fowls. I have seen him spay a dozen female pigs and castrate as many boars within the space of two hours. When asked why he operated, the reply was, "'Cause, ye knows, it makes de animils take on fat." Of all the operations on liv-

ing creatures, caponizing fowls is one of the most delicate, requiring a rare combination of knack, dexterity, and adroitness of touch, possessed by only a few individuals. Jack was known as and believed himself to be, as he certainly was in his way, a great "cracter." His operations, amounting in his latter days to thousands, were generally successful, and with the exception of losing a few caponized cocks, a fatal case in other creatures was never mentioned. If Jack's biography had been written and his fame known, the renown of Frère Jacques, the lithotomist, would have paled before it.

THE PRESENT STATE OF GYNÆCOLOGY.

The truth is, gynæcology lacks the dignity of the older specialties, — those of the eye and ear, for example. It came into being less than a score of years ago, and, like the juvenile and rollicking student just fledged, with a diploma and invested with the title of M. D. after a probation of eight months at an alma mater never known to produce anything but premature fruit, its disciples feel replete with all knowledge, believe that their particular art is perfect, and has only to be kept free from heretical accretions of every sort, whether from within their own charmed circle, or without from the profession at large. They engage in angry disputations and personal conflicts. Instead of wasting their time and talent in this manner, would it not be better for them to apply both in investigating the anatomy and physiology of the uterus and its appendages, the knowledge of both being very defective? — besides which they have before them the entire field of embryology. We all believed for a long time that the anatomy of the eye was tolerably well understood, and yet when I was in Berlin, in 1867, Von Graefe and Virchow were engaged in examining microscopically the cornea, and the latter showed me a drawing which had just been finished by one of his students, exhibiting minute nerves passing through this structure in lines corresponding

with the diameter of its arc. Investigations of this sort applied to the uterus and its appendages, about which comparatively little is known, might prove of great value to the profession at large.

A famous gynæcologist boasted to a friend of mine that he had not in ten years read a single line in any medical book or journal. Fortunate man, to have his aspirations tally with the limited professional sphere in which he lives, moves, and has his being, and the perfunctory operations he is called on daily to perform! With rich and promising fields before them, the gynæcologists have added not a jot to our previous knowledge of the anatomy and physiology of an organ which, though deficient in sensibility and voluntary motion, is nevertheless endowed with organic instincts of the highest order; and yet, in the absence of such knowledge, they go on to cut, hack, slash, and probe the uterus, besides using too frequently sponge and sea-tangle tents to dilate its neck, and throw into its cavity Churchill's mixture and other fluids of a highly irritating and exasperating character. They claim to be considered the directors, administrators, and trustees of important branches of medicine and surgery, and show that some master hand is needed to lay before them and others the work to be accomplished. If an individual limits his horizon to the os externum, his explorations to the os internum, and employs his time in the unvaried monotony of operations related therewith, there is danger, if he be a man of broad views, that he will in time become himself either hysterical, or a hysteromaniac.

From non-observance of the precepts herein contained the practices or *clientèles* of all general practitioners have been and must continue to be hot beds and nurseries wherein blooming cervices, fibroids, ovarian cysts, and numerous other flowers and fruits are germinated, reared, and preserved exclusively for the conservatories and surgical tables of the gynæcologists.

The views expressed in this paper were taught and

practiced in the women's ward of the Baltimore City and County Almshouse during 1848 and previous years, and it is hoped that the writer will be pardoned for bringing forward at this late date an epitome of ideas which advanced gynæcologists will no doubt regard as so very primitive and extremely elementary. The work of gynæcologists for the past twenty years has been almost exclusively surgical. Had they done as much in elucidating the anatomy of the fibrous structures, arteries, veins, lymphatics, nerves, erectile tissues, endermion, and ovaria, besides showing the relations of these different structures to and dependence on each other, both in a state of rest and in the conditions of evolution, and had given more attention to embryology, the whole subject would at this time have been better understood. We have hope at least that biologists will in the next twenty years anatomize the different layers and important muscular bands of the uterus and its appendages, and not only measure their force, but point out the direction in which, and to what end, the power is applied.

Nor has anything been done in the past thirty years to teach the value of internal remedies in affections of the womb. Plenty of steel is used, but in a very compact form and having a very keen edge. Dr. Tilt has published a volume on Uterine Therapeutics, but it is disappointing to find that, beyond giving a list of remedies and speaking in general terms only of their therapeutic qualities, little is said except about surgery and topical applications. There are many good gynæcological surgeons, but no therapeutist capable of diagnosticating and treating uterine affections without a resort to the knife has yet appeared. A surgeon in Paris probed the wound of a man who had shot himself through the brain with a large pistol ball. The charge for the operation was, say, six thousand francs. The executors protesting, he said, "Had I written a prescription for the late Mr. C., my charge would have been ten francs; but when we take up an instrument and use it, the patient or his estate is expected to pay liberally."

SUMMARY.

I endeavored to show at the beginning that the active state of the constrictor cervicis muscle is in the period of gestation, during which process it is transformed into the constrictor oris uteri, but that in the dormant condition of the unimpregnated uterus this muscle becomes very often like an idle individual, mischievous, converting by morbid compression the veins underlying it, not into mythical, but into actual closed Pandora boxes. From the very beginning to the end of pregnancy, the life of this muscle is evolution and growth, and its office that of a support, whereby it is prepared for a supreme effort during and after parturition; but in the dormant state of the unimpregnated uterus its slow, feeble, and stealthy, but persistent, contractions are, when they occur, always morbid. The relation this constrictor muscle bears to the veins of the cervix, and the agency or *vis morbi* it possesses of becoming by closing them a *causa morbarum*, thereby producing multiform diseases, have never, so far as is known, been even hinted at, much less described, by any medical, surgical, or physio-pathological writer.

The disease-producing power of this muscle and the antagonist to it, that is to say, the agency exerted by the bougie in preventing, dissipating, or annulling the decrees of this autocratic band of fibres, are both well expressed in the phrase *vis morbi distracta per artus*; here the muscle represents the *vis morbi*, while the *distracta per artus* is typified in the use of the bougie to arrest its morbid action. It may be doubted whether in the whole field of medicine and surgery an example can be found to illustrate more clearly the truth and significance of the above aphorism. Dilating the cervical canal to its *normal calibre, not beyond*, and allowing the bougie to remain in it *sufficiently long to fatigue the constrictor cervicis muscle*, are also the best means of relieving what Virchow and Dr. Gaillard Thomas have been pleased to call areolar hyperplasia,

in lieu of the engorgement of Lisfranc and the subinvolution, chronic metritis, or hyperæmia of other authors, who, under various synonyms, have made this condition such a terrible bone of contention as to its mode of production and true character. I have always regarded it as a hæmostasis, or passive congestion, and in its advanced stages, as hypertrophy of all the tissues, caused by morbid nutrition resulting from obstruction to the venous circulation. In this condition ergot should be used as the adjuvant, and in chronic cases dilatation may have to be repeated at intervals of ten, twenty, or thirty days.

For this muscle, occupying a perfectly unique position, and capable by its morbid contractions of producing not only numerous diseases of the uterus and its appendages, but also disturbances of the entire female economy, a new name is wanted.

Dr. Mackintosh, of Edinburgh, reports twenty-four cases, out of twenty-seven, relieved by dilatation of the cervical canal with metallic rods, a practice unwisely abandoned, showing as it did most excellent results, especially when it is remembered that the metallic rods were not permitted to remain in the uterus for any length of time, and that they were used without knowledge of the mode in which relief by dilatation was to be obtained.

In Dr. T. Gaillard Thomas's admirable work on the diseases of women, it may be seen that in his chapters on areolar hyperplasia and dysmenorrhœa he speaks of the obscurity of uterine pathology and the want of some undiscovered key to the knowledge of it. It is hoped that this short paper may assist him and others in finding the missing key.

It has been seen that the object of this paper was and is to explain the ætiology of numerous uterine affections, but the inquirers after truth, who do not like the foregoing explanations, and believe that the key to these diseases has not been discovered, are free to search after some more satisfactory solution of their mode of

production, remembering, however, that where one ascertained cause is sufficient to account for a series of sequences, it is unphilosophical to look for any other, and recollecting also that as the simple method of dilatation by freeing the veins removes, as it has been shown to do, the cause, its disease-producing effects must in like manner be prevented.

BALTIMORE, *November* 29, 1879.